



PEX-D48

PCI Express, 48-ch Digital I/O Board

Introduction

The PEX-D48 board utilizes the PCI Express bus and is designed as an easy replacement for the PIO-D48/PIO-D48U/PIO-D48SU series without requiring any modification to either the software or the driver.

The PEX-D48 provides 48 buffered TTL Digital Input/Output lines, which are grouped into six 8-bit bi-directional ports: Port A (PA), Port B (PB) and Port C (PC). Port C can also be split into two nibble-wide (4-bit) segments. All ports are configured as input mode during power-on or after a reset.

The PEX-D48 also includes an onboard Card ID that enables the board to be easily recognized via software if two or more cards are installed in the same computer. The pull-high/low jumpers allow the DI status to be predefined instead of remaining floating if the DI channels are disconnected or line broken.

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
N.C	01		PC_7	01	O O
N.C	02	20 +5 V	PC_6	03	O O
PB_7	03	21 GND	PC_5	05	O O
PB_6	04	22 PC_7	PC_4	07	O O
PB_5	05	23 PC_6	PC_3	09	O O
PB_4	06	24 PC_5	PC_2	11	O O
PB_3	07	25 PC_4	PC_1	13	O O
PB_2	08	26 PC_3	PC_0	15	O O
PB_1	09	27 PC_2	PB_7	17	O O
PB_0	10	28 PC_1	PB_6	19	O O
GND	11	29 PC_0	PB_5	21	O O
N.C.	12	30 PA_7	PB_4	23	O O
GND	13	31 PA_6	PB_3	25	O O
N.C.	14	32 PA_5	PB_2	27	O O
GND	15	33 PA_4	PB_1	29	O O
N.C.	16	34 PA_3	PB_0	31	O O
GND	17	35 PA_2	PA_7	33	O O
+5 V	18	36 PA_1	PA_6	35	O O
GND	19	37 PA_0	PA_5	37	O O
			PA_4	39	O O
			PA_3	41	O O
			PA_2	43	O O
			PA_1	45	O O
			PA_0	47	O O
			+5 V	49	O O

Ordering Information

PEX-D48 CR	PCI Express, 48-ch Digital I/O Board (RoHS)
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Features

- PCI Express x1 Interface
- Supports Card ID (SMD Switch)
- Emulates two Industrial-standard 8255 PPI Ports (Mode 0)
- DI/O Response Time approximately 2 μ s (500 kHz Max.)
- DO Provides Higher Driving Capability
- One 16-bit Event Counter
- 48 Buffered TTL Digital Input/Output Lines
- Six 8-bit Bi-directional Input/Output Ports
- One 32-bit Programmable Internal Timer
- Pull-high/Pull-low Jumpers for DI Channels
- Four Interrupt Sources



Software

Drivers

- 32/64-bit Windows 10/11
- Linux











Sample Programs


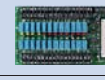
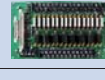
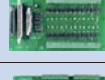





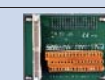
- DOS Lib and TC/BC/MSC Demo
- VB/VB.NET/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

Hardware Specifications

Programmable DI/O	
Channels	48
Compatibility	5 V/TTL
Digital Input	
Input Voltage	Logic 0: 0.8 V Max. Logic 1: 2.0 V Min.
Response Speed	500 kHz
Digital Output	
Output Voltage	Logic 0: 0.4 V Max. Logic 1: 2.4 V Min.
Output Capability	Sink: 64 mA @ 0.8 V Source: 32 mA @ 2.0 V
Response Speed	500 kHz
Timer/Counter	
Channels	2 (Event Timer x 1/32-bit Timer x 1)
Resolution	16-bit
Reference Clock	Internal: 4 MHz
General	
Bus Type	PCI Express x1
Card ID	Yes (4-bit)
Connectors	Female DB37 x 1 50-pin Box Header x 1
Power Consumption	1500 mA @ +3.3 V 0 mA @ +12 V
Operating Temperature	0°C to +60°C
Humidity	5 to 85% RH, Non-condensing

Accessories

	CA-3710 CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°)) (RoHS)
	CA-3710D CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°)) (RoHS)
	CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5 M, 180°. (RoHS)
	CA-3730DM-H CR	DB-37 Male-Male Cable, 3.0 M, 180°. (RoHS)
	CA-3750DM CR	DB-37 Male-Male Cable, 5.0 M, 180°. (RoHS)
	CA-4002 CR	37-pin Male D-sub connector with plastic cover (RoHS)
	CA-5002 CR	50-pin flat cable 20 cm (RoHS)
	CA-5015 CR	50-pin flat cable 1.5 M (RoHS)
	CA-SCSI100-15 CR	SCSI II 100-pin & 100-pin Male connector cable 1.5 M (RoHS)
	ADP-37/PCI CR	50-pin connector extender to 37-pin connector (RoHS)

	DB-24P CR	24-channel isolated D/I board (RoHS)
	DB-24R CR	24-channel relay board (RoHS)
	DB-24PR CR	24-channel power relay board (RoHS)
	DB-24POR CR	24-channel of PhotoMos Relay output board (RoHS)
	DB-24SSR CR	24-channel Photo Mos relay output board (RoHS)
	DB-24C CR	24-channel of open-collector output board (RoHS)
	DN-100 CR	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector (RoHS)
	DN-100-CA CR	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector Include one CA-SCSI100-15 cable (RoHS)
	DN-37 CR DN-37-381 CR	I/O Connector Block with DIN-Rail Mounting and 37-Pin D-Sub Connector (RoHS)
	DN-50 CR DN-50-381 CR	I/O Connector Block with DIN-Rail Mounting and 50-Pin Header (RoHS)

